

**Remarks**

The Office Action mailed January 6, 2005 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-25 are now pending in this application. Claims 12-15 and 22-24 are allowed. Claims 1, 2, and 16 stand rejected. Claims 3-11 and 17-21 are objected to. Claim 25 is newly added.

A fee calculation sheet for the newly added claim along with authorization to charge a deposit account in the amount of the calculated fee are submitted herewith.

The rejection of Claims 1, 2, and 16 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent No. 6,655,190 is respectfully traversed.

U.S. Patent No. 6,655,190 describes and claims embodiments of a high-G shock pulse generator where the g-force is generated by utilizing an external object to break a column that is exerting a force on a rigidly mounted beam. In this patent, the column is broken by impacting it with a projectile or exploding an explosive bolt that is embedded within the column. However, nothing in U.S. Patent No. 6,655,190 is reasonably construed as a shock column configured to have a buckling failure operable when it is applying a specific force to a beam.

Claim 1 recites a mechanical shock producing device for testing a sample specimen that comprises "a shock column positioned to apply a force to said beam,"... "said column comprising a buckling failure formed therein, said buckling failure configured to cause said column to buckle when a specific force is applied to said beam through said column."

U.S. Patent No. 6,655,190 does not describe or suggest a column configured with a buckling failure which is operable when a specific force is applied to the beam through the column. Rather, U.S. Patent No. 6,655,190 describes a frangible column that is either

shattered by a projectile or broken utilizing an explosive bolt, neither of which can be considered a buckling failure built into the column. For the reasons set forth above, Claim 1 is submitted to be patentable over U.S. Patent No. 6,655,190.

Claims 2 depends directly from independent Claim 1. When the recitations of Claim 2 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 2 likewise is patentable over U.S. Patent No. 6,655,190.

Claim 16 recites a shock column for a mechanical testing device comprising “a column portion ... column portion configured to buckle when a specific pressure is applied between said top cap and said bottom cap.”

U.S. Patent No. 6,655,190 does not describe or suggest a shock column configured to buckle when a specific pressure is applied between its top and bottom. Rather, U.S. Patent No. 6,655,190 describes a frangible column that is either shattered by a projectile or broken utilizing an explosive bolt, neither of which are dependent on the application of a specific pressure. For the reasons set forth above, Claim 16 is submitted to be patentable over U.S. Patent No. 6,655,190.

For the reasons set forth above, Applicants respectfully request that the double patenting rejections of Claims 1, 2, and 16 be withdrawn.

The rejection of Claim 16 under 35 U.S.C. § 102(b) as being anticipated by Jacobsen et al. (U.S. Patent No. 5,744,947) is respectfully traversed.

Jacobsen et al. describe a movement actuator which includes an elongate filament made of a flexible material, and a strip of shape memory alloy disposed on the surface of one side of the filament. The shape memory alloy is responsive to actuation signals (i.e., heat, current) for changing its shape which causes the filament to move to accommodate the change in shape of the alloy. See Abstract. Jacobsen et al. further describe a sensor system for determining the degree of movement and the direction of movement of a flexible rod 92. The rod 92 is anchored at one end in a base 102 so that the free end of the rod is subject to

forces in various directions indicated by the arrows 106. Disposed circumferentially about the bar 92 are four strain gauges 110 that produce signals whose magnitudes are an indication of the degree of strain occurring at the location of the strain gauges. As a force is applied to the free end of the rod 92, to cause it to bend, the bar strains differently at different circumferential locations about the rod and these strains, at least at the location of the strain gauges 110, are detected and signals indicating the amount of strain are supplied to a microprocessor 114.

Claim 16 recites a shock column for a mechanical testing device comprising “a column portion ... column portion configured to buckle when a specific pressure is applied between said top cap and said bottom cap.”

Jacobsen et al. do not describe or suggest a shock column configured to buckle when a specific pressure is applied between its top and bottom. Rather, Jacobsen et al. describe flexible rods with one end mounted in a base and strain gauges configured to measure an amount of strain as the rods bend, presumably in response to one or more actuation signals. Flexible rods and elongated filaments are not reasonably construed as a shock column configured to buckle at a specific applied pressure. For the reasons set forth above, Claim 16 is submitted to be patentable over Jacobsen et al.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claim 16 be withdrawn.

The objection to Claims 3-11 and 17-21 is respectfully traversed. Claims 3-11 depend from independent Claim 1 which is submitted to be patentable for the reasons provided above. Claims 17-21 depend from independent Claim 16 which is submitted to be patentable for the reasons provided above. For these reasons, Applicants request that the objection to Claims 3-11 and 17-21 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

*Express Mail Label No.: EV 459189302 US*

H0004317  
PATENT

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Robert E. Slenker", written over a horizontal line.

Robert E. Slenker

Registration No. 45,112

ARMSTRONG TEASDALE LLP.

One Metropolitan Square, Suite 2600

St. Louis, Missouri 63102-2740

(314) 621-5070